Abstract

All distributed systems require one process to act as a coordinator, initiator or otherwise perform some special role. In general, it does not matter which process takes on this special responsibility, but one of them has to do it. The goal of an election algorithm is to ensure that when an election starts, it concludes with all processes agreeing on who the new coordinator is to be. Bully Algorithm by Garcia-Molina is a classic algorithm for leader election in a distributed system. Although the already existing algorithm solves the purpose, the traditional bully algorithm takes lot of message passing involved and it does not provide facilities to ensure that what will happen when dead leader recovers back again. Here we propose a slight modification in the classic bully algorithm which reduces the number of messages that are needed to elect the leader. Also we suggest methods on how to react when the dead leader recovers back again. The end result is a modified election bully algorithm which is much efficient than the existing leader election algorithms used in a distributed environment.

References

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